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ABSTRACT

A study analyzed the verbal interactions of married couples in high, moderate, and low marital satisfaction groups to determine whether (1) the interaction processes within the three satisfaction groups differed and (2) there were different communication patterns that characterized the interaction processes of the groups. Subjects were 34 young married couples who were administered a marital satisfaction scale that classified them as high, moderate, or low in marital satisfaction. Each couple was then videotaped while discussing two problem situations, and their verbal interactions were analyzed according to a 12-category coding scheme that measured adjustment along four components: degree of consensus, cohesion, affectionate expression, and general relational satisfaction. Results showed that significant communication patterns characterized the verbal exchanges of differentially satisfied married couples. Highly satisfied couples tended to use coaxing, confirming, socioemotional questions, and task-oriented statements to acknowledge the ideas and feelings of their spouses, to facilitate new information exchanges, and to inject a sense of humor into their interactions. Low satisfied couples tended to restrict themselves to the rigid use of confronting and complaining acts to attack their spouses and the use of justificatory statements to defend themselves. (FL)

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AN ANALYSIS OF COMMUNICATION PATTERNS IN DIFFERENTIALLY SATISFIED MARITAL COUPLES

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ABSTRACT

The communication interaction data of this study were obtained from 34 young married couples without children who were each videotaped while discussing two naturalistic problem sutuations during a half-hour period. The subjects completed Spanier's Dyadic Adjustment Scale and were categorized as high, moderate, and low on a continuum of marital satisfaction. A 12-category coding scheme, the Intimate Negotiation Coding System, was used to analyze the verbal interaction process in each couple. Markov chain analysis and Lag sequential analysis were employed to examine intimate interaction patterns in the three marital satisfaction groups. The results strongly suggest that significant communication patterns consistently characterize the verbal exchanges of differentially satisfied married couples. A conceptual framework which summarizes the key results of the study concerning marital interaction patterns, style, structure, and verbal repertoire within the three marital satisfaction systems is presented at the end of the discussion.

AN ANALYSIS OF COMMUNICATION PATTERNS IN DIFFERENTIALLY SATISFIED MARITAL COUPLES

INTRODUCTION

The term "communication" in general, seems to have been taken as a panacea in the marital relations scene of the 80's. It has been presented in numerous marital handbooks (Haley, 1978; Miller, Nunnally, & Wackman, 1975; Satir, 1964; Weiss, 1975) as the main positive vehicle to improve intimate relationships. Various aspects of marital communication have been viewed as the key factors that critically influence relational satisfaction (Gottman, 1979; Hawkins, Weisberg, & Ray, 1980; Markman, 1979; Miller, 1976; Montgomery, 1981; Rausch, Barry, Hertel, & Swain, 1974). In fact, in a recent assessment study (Snyder, 1979) on marital satisfaction of nearly 200 married couples, communication per se, emerges as the single best predictor of marital satisfaction -- outranking other variables such as leisure time together, sexual relationship, and family finances. Indeed communication has occupied a central role in marital bonding.

Unfortunately, while theorists and researchers acknowledge the importance of communication in evolving intimacy, relatively little effort has been directed toward discovering and analyzing interactional sequences of intimate conversation. We have little knowledge of how intimate couples structure their verbal exchanges across time, especially in the context of perceptual disagreements; or descriptive data concerning whether intimate couples communicate differently when they reported different levels of relational satisfaction. In general, we recognize the important role of communication in improving interspousal understanding but we have yet to

establish a consistent relationship between intimate interaction process and levels of marital satisfaction. We cannot be completely certain that the verbal exchange processes in happily married couples are that different from the interaction processes of unhappily married couples.

The main purpose of this study is to systematically analyze the verbal interaction processes of married couples in high -, moderate -, and low -, marital satisfaction groups. Specifically, the following two research questions guided the present investigation: First, do the interaction processes within high, moderate, and low satisfaction groups differ? Second, are there any different communication patterns that characterize the interaction process of differentially satisfied married couples?

It is assumed in this study that intimate communication is a process which develops through time. Intimate couples use communicative messages to define and monitor their relationships. They also use the messages of others as a screening device to regulate their own verbal output. Based on the history of their relationship, intimate couples would have more chances to communicate with their partners and in turn are more likely to develop a highly stylized verbal mode of interaction. Hence, we expect a certain degree of verbal regularities to emerge in the interaction process of intimate conversation. The central question in this investigation asks: On a group basis, do the verbal interaction processes of differentially satisfied couples differ from one group to the next?

LITERATURE REVIEW

A review of the previous literature on communication and marital satisfaction uncovers the following three points: (1) a direct significant relationship exists between the two variables, communication and

marital satisfaction; (2) self-disclosure and other-awareness are genealy perceived as the basic components of marital communication; and (3) communication is viewed as an enriching tool leading to marital satisfaction.

In analyzing the relationship between self-disclosure and conjugal satisfaction, Jorgensen and Gaudy (1980) found that the amount of self-disclosive information had a direct positive effect on relational satisfaction. Using the twin concepts of self-disclosure and other-awareness, Hawkins, Weisberg, and Ray (1980) developed a model of communication styles in married persons. In general, they found that the wives valued a contactful style of interaction (high disclosure, open awareness) in their husbands more than the husbands do for themselves. The husbands preferred slightly more speculative style of interaction (low disclosure, open awareness) from the wives and preferred to see less conventional behaviors (low disclosure, closed awareness) in their wives. In developing an empirical typology to describe enduring relationships, Fitzpatrick and Best (1979) found that married couples who shared a similar definition of their relationship were significantly more in agreement on a wider range of marital issues and were more cohesive than couples who did not share a common relational definition.

In formulating a multivariate model of marital satisfaction, Miller (1976) found that the frequency of "companionate activities" (such as chatting, good laugh, shared jokes, and being warm and affectionate) was one of the two crucial antecedent variables that positively related to marital satisfaction. In a similar attempt to develop a marital satisfaction inventory, Snyder (1979) identified affective behavior (i.e. the amount of affection and understanding expressed by the spouse) and problem-solving behavior (i.e. effectiveness and ability to

resolve disagreements) as the key components that formed the dimension of marital communication. Apparently, the ability to express one's emotion and the ability to manage conflicts increased satisfaction across a broad spectrum of relational functioning. Finally, Montgomery (1981) proposed a conceptual framework of quality marital communication consisting of the following four components: openness, confirmation, transactional management, and situational adaptability.

Unfortunately, while previous studies have offered us numerous insights in building a working taxonomy of how individuals behave in intimate contexts, several limitations of this set of studies continue to exist. First, this body of literature primarily measures the perceived dimension of message preference among individuals in intimate contexts; there is no certainty that these self-report behaviors are the actual communicative behaviors used in the real settings. Second, by focusing primarily on the individual (except for Fitzpatrick and Best's work) as the unit of analysis, much of the dynamics of the intimate communication processes are lost. Third, the hypothetical intimate situations (for example, an attempt to counterpersuade an imaginary fiancé not to postpone the wedding) are highly artificial and could have no meaningful relevance to the participants in the study. While we have some clues as to the general relationship between communication and relational satisfaction, there is still a lack of data concerning the actual negotiation processes of how marital couples communicate to one another in the context of perceived marital disagreements.

Moving beyond the study of the perceptions of intimate communication behaviors, there has been a line of research that employs different interaction coding schemes to analyze the specific behaviors of intimate couples.

This line of inquiry primarily deals with analyzing the communication behaviors of distressed married couples in the pre-treatment condition versus the post-treatment condition (Jacobson, 1977; Jacobson & Martin, 1976; Weiss, Hops, & Patterson, 1973) and was interested mainly in comparing the behavior of clinical couples with non-clinical couples (Birchler, Weiss, & Vincent, 1975; Gottman, Markman, & Notarius, 1977; Gottman, Notarius, Markman, Bank, Yoppi, & Rubin, 1976; Haynes, Follingstad, & Sullivan, 1979; Royce & Weiss, 1975). Research has yet to establish a consistent relationship between intimate sequential interactions and levels of relational satisfaction in married couples of the normal population, and move beyond the findings that have been discovered in the marital therapeutic context.

A 12-category coding scheme, the Intimate Negotiation Coding System (see table 1) was derived from the intimate negotiation strategies literature (Clark, 1979; Cupach, 1980; Falbo & Peplau, 1980; Fitzpatrick & Winke, 1979; Miller, Boster, Roloff, & Seibold, 1977; McLaughlin, Cody, & Robey, 1980; Roloff, 1976; Sillars, 1980) and augmented through a review of the marital interaction literature (Gottman, Markman, & Notarius's Couples Interaction Scoring System, 1977; Hops, Wills, Patterson, & Weiss's Marital Interaction Coding System, 1972; Rausch, Barry, Hartel, & Swain's Marital Conflict Coding Scheme, 1974; Rogers & Farace's Relational Communication Analysis Scheme, 1975). The new coding scheme was designed for the purpose of coding verbal exchanges in intimate communication. The limitations of prior intimate communication coding schemes were critiqued in another paper (Ting-Toomey, 1982) along these three dimensions: (1) the lack of a strong theoretical rationale in these schemes; (2) the lack of clear empirical referents of the coding categories; and (3)

Table 1

Summary of the INCS Coding Categories

Integrative Behavior

1. Confirming: mutual-oriented act which reveals one's understanding of the situation and openly conveys acknowledgement, empathy and/or acceptance of partner's feelings/ideas. It can be operationally defined as:
   a. Summarizing Other: any direct statements which paraphrase the the previous statements of the partner.
   b. Parasupporting Other: statements that provide additional illustration and clarification of previous statements of the partner.
   c. Justifying Other: statements that provide reasons for the other person's ideas/actions.

2. Coaxing: mutual-oriented act which attempts to make the partner feel good about himself/herself before making explicit any other motivation behind the act.
   a. Flattering Other: statements that contain soothing words of praise or compliment of the partner.
   b. Gentle Appealing: statements that appeal to the love or affection of the partner.
   c. Humor and Jokes: statements in a humorous or joking manner to create a relaxed pleasant atmosphere in the interaction.

3. Compromising: mutual-oriented act which involves negotiation exchange of accepting part of partner's proposal while proposing one's alternative plan.
   a. Negotiating Deals: statements that indicate acceptance of the partner's plan is contingent on certain conditions.
   b. Probing Alternatives: statements that probe different alternatives in hope of finding a solution.
   c. Reconciliation: statements that signal the willingness to reexamine or resolve the disagreement through modification of original position.

4. Agreement: mutual-oriented act which indicates one's concurrence and support for the other's ideas.
   a, Assent: brief verbal responses such as "huh, huh" or "yeah, yeah."
   b. Explicit Agreement: explicit concurring statement with the other's viewpoint.
   c. Compliance: statements that comply with a preceding request.

Descriptive Behavior

5. Socio-Emotional Description: descriptive statements concerning one's feelings upon various issues, ideas, or persons in a leveling manner.

6. Socio-Emotional Question: statements that inquire about the affective state of the partner.

Table 1 (continued)

7. Task-Oriented Description: Issue-oriented factual statements concerning either the past, present, or future.

8. Task-Oriented Question: statements that ask for factual information or request further elaboration of task-oriented points.

Disintegrative Behavior

9. Confronting: Individual-oriented act which directly attacks, criticizes, or negatively evaluates the partner's feelings/ideas.
   a. Negative Evaluation: statements that put down the partner's emotions or ideas, or the person himself/herself.
   b. Loaded Question: statements that are disguised in question form which clearly disclose the negative intention of the speaker.
   c. Direct Rejection: statements that reveal bitterness, disgust, or sense of hopelessness of the situation, and use of sarcasms.

10. Complaining: Individual-oriented act which discloses discontentment and resentment through indirect blaming strategies.
   a. Blaming Target: statements that shift the responsibility of the fault to the target.
   b. Blaming Third Party: statements that shift the responsibility of the fault from the dyad to someone else.
   c. Blaming Situation: statements that shift the responsibility of the fault from personal characteristics to situational characteristics.

11. Defending: Individual-oriented act which persists in clarifying one's own position regardless of other's feelings/ideas.
   a. Direct Self-Justification: statements that persist on justifying one's own action.
   b. Justifying Third Party: statements that justify the action of a third party.
   c. Justifying Situation: statements that justify the righteousness of the situation.

12. Disagreement: Individual-oriented act which undermines the partner's feelings or ideas.
   a. Dissent: short staccato responses such as "no, no" or "ah, ah."
   b. Direct Disagreement: explicit dissenting statement from the partner's viewpoint.
   c. Noncompliance: statements that refuse a preceding request.

most coding categories in each scheme are not mutually exclusive or exhaustive.

The developmental criteria for generating the Intimate Negotiation Coding System (INCS) were based on the following guidelines: (a) the system should contain a theoretical framework that interrelates the various coding categories in a meaningful direction; (b) the scheme should consist of interaction categories that are mutually exclusive and exhaustive; (c) the scheme should include clear conceptual and operational definitions for each coding category; (d) the scheme should contain categories that can capture descriptively the negotiation process of intimate couples. Negotiation process is conceptually defined in this study as the verbal sequencing process between two interdependent parties who hold conflicting viewpoints on one or more issues that confront them. The specific details of the theoretical development of the INCS and the precise conceptual and operational definitions of each INCS category were explicated in author's dissertation (Ting-Toomey, 1981).

Thus, the Intimate Negotiation Coding System (INCS) was designed to code the verbal exchange process of intimate conversation. The theoretical framework of the INCS is based on three observations derived through a careful analysis of the intimate strategies literature. (1) Intimate communication is characterized by a highly affectional style of interaction which consists of emotionally-toned messages that reveal the affective state of the speaker and at the same time, appeal to or reject the affective experience of the listener. (2) Intimate communication is generally characterized by three types of behaviors i.e. integrative behavior, descriptiv behavior, and disintegrative behavior. (3) Integrative behavior consists of verbal acts which reveal one's affective state while at the same time

accepting the idea or affective experience of the listener; disintegrative behavior consists of verbal acts which reveal one's affective state while rejecting the feelings in the listener; and descriptive behavior includes verbal acts which facilitate information flow through either task-oriented statements or socio-emotional statements. The integrative behavior consists of communicative acts which reflect a mutual-orientation. Disintegrative behavior consists of communicative acts which reflect an individual-orientation. Descriptive behavior includes verbal acts which function neutrally as either giving information or inquiring information from the recipient.

In brief, integrative behavior consists of mutual-oriented acts which convey a sense of awareness and acceptance of the other person's feelings and attitudes. Disintegrative behavior consists of individual-oriented acts which convey a sense of insensitivity to the other person's feelings and attitudes. Descriptive behavior consists of neutral-oriented acts which convey one's own ideas or solicit the ideas of the other person without necessarily accepting or rejecting (or being defensive about) the partner's thoughts and feelings.

The Intimate Negotiation Coding System (INCS) is used in this investigation to code verbal interact exchanges of married couples situated at three levels of relational satisfaction. The objective of the study is to systematically analyze the verbal negotiation processes of intimate conversation. Do couples communicate differently in three marital satisfaction systems? If the answer is affirmative, how do the communication processes within the three levels of relational satisfaction differ from one another?

METHOD

Participants

Participating in the study were 34 married couples (N=68), contacted through University family housing units, a local church group, and speech communication classes. The criteria for the recruitment of subjects were: (1) both spouses were within the age range of 18 to 38, and (2) they did not have any children. Both criteria were selected to control for possible confounding effects due to the variable of age or children in a marriage.

The average age of all participants was 27 years old. The mean dating time was 2 1/2 years, and the average duration of the 34 marriages was 3 years, 3 months. Of the sample, 12 percent reported they had been married more than once, while the rest reported that this was their first marriage. The average income for all subjects was in the range of $10,000 - $14,000.

Instrumentation

All participants were required to fill out the Dyadic Adjustment Scale (Spanier, 1976). The scale had been assessed in previous research (Spanier, 1974, 1976; Spanier & Cole, 1976) as possessing strong content, criterion-related, and construct validity. The scale is a 32-item questionnaire designed to measure relational adjustment and satisfaction in intimate couples. The scale measured dyadic adjustment along the following four components: degree of consensus, cohesion, affectional expression, and general relational satisfaction. Dyadic consensus is the degree of agreement that couples hold on issues of importance such as handling family finances or making major decisions. Dyadic cohesion refers to how often a couple engages in companionate activities. Affec-

tional expression concerns how often a couple expresses love for each other. Dyadic satisfaction examines the degree of happiness in the relationship, plus the frequency of conflicts experienced in the relationship. The overall coefficient alpha of the Dyadic Adjustment Scale (DAS) is .96.

Interaction Tasks

Each marital couple was required to discuss two marital issues during the videotaped sessions. The two interaction tasks were based on: (a) the joint responses of each couple on one item of the DAS, and (b) the joint choices of each couple on one out of five marital "improvised" conflict situations (Gottman, 1979). There were two reasons for using these tasks: both topical contents were perceived as highly relevant to the married couples themselves and the topics were found to be conducive (in a pilot study with 5 marital couples) to eliciting spontaneous conversations from the couples.

The DAS task was derived from the couple's joint responses on the questionnaire. Based on their expressed perceptual disagreement on one DAS item (the one item that they maximally disagreed), the married couple was asked to express and explain to each other why they checked the item in such manner. For example, one spouse might indicate on the item of "handling family finances" that they "almost always disagree," while the other spouse indicated "always agree." The spouses then had a perceptual dissensus situation concerning a same item and verbal negotiation was needed to manage the perceived differences.

The "improvised" task was empirically derived through extensive interviews with 60 married couples by Gottman and his associates (1979). Altogether, 180 common descriptions were summarized in short vignettes,

and finally reduced to six common marital themes. These themes were: sharing events of the day, money, in-laws, sex, decision to have children, and disciplining children. On the basis of these six themes, six improvisations that reflected the typical conflict interactions of spouses in these situations were reconstructed (Rubin, 1977). However, for the purpose of this study, only five conflict scenes were presented to the subjects; since the subjects in this study were married couples without children, the last scene "disciplining children" was omitted. The couple, after reading the five conflict marital scenes was instructed to select one (the one scene that they could most identify with) out of the five marital scenes for discussion.

Data Collection Procedures

Each married couple was invited to come to a specially equipped media room located in the University Speech Communication Department on an appointed date. The investigator briefly explained the purpose of the study and then administered the Dyadic Adjustment Scale separately to both spouses. To insure that the couple did not confer on their responses, the investigator was present at all times. The subjects took approximately 15 minutes to fill out the questionnaire.

Upon completion of the questionnaire, both spouses were given a set of index cards that contained five marital "improvised" situations. They were told that although the conflict situations on the cards might not exactly resemble their own marital situations, they should be able to spot a parallel situation which they could identify. They were asked to read through each card carefully and jointly pick one conflict scene that they could closely relate to and that they would like to discuss in the next 15 minutes.

After the first interaction task, another set of instructions were read to the couple for administering the DAS task. They were told that although they had expressed very similar perceptions on many of the DAS items, nevertheless, they held very different perceptions on a few items. The investigator then proceeded to identify the specific DAS item that they maximally disagreed on and asked them to communicate to one another for 15 minutes concerning this conflicting item. To counterbalance for any topical effect, half of all married couples were first administered the "improvised" task, then the DAS task; while the rest of the couples discussed first the DAS task, then the improvised task.

Coding Procedures

Two procedures were involved in the training of interaction coders: (1) an orientation phase, and (2) a coding phase. The orientation phase was concerned with familiarizing the coders with the coding categories of the Intimate Negotiation Coding System (INCS). The coding phase was the actual coding of the videotaped interactions. The coders were two undergraduate Speech Communication majors. The total instructional coding program covered four weeks and involved approximately 24 hours of training time. After the completion of the training program, the two coders began their actual coding of the marital interaction data. They classified each utterance ("the continuous flow of verbal messages by one member in the dyad to the point at which this same member terminates verbal output or is intercepted by his or her dyad partner") into one of the INCS twelve categories. They were instructed to follow these three basic rules in coding: (1) adhere strictly to the conceptual and operational definitions that have been established for each INCS category; (2) use a receiver-centered approach in coding i.e., coding each utterance in terms of the impact of the verbal act rather than the intent of the speaker; and (3) approach each utterance

as a wholistic unit i.e. treating the entire utterence as one message package possibly containing several thought units. Both coders coded all 34 videotaped interactions. Twenty percent of the interactions were randomly checked for intercoder reliability. Cohen's Kappa statistic (a conservative reliability measure; Cohen 1968) indicated intercoder agreements ranged from .86 to .95, well above the standard criterion of .75. Ten percent of the earlier tapes were recoded by the same coders after the lapse of three weeks. Intercoder across-time reliability ranged from .85 to .89; and intracoder across-time reliability for both coders ranged from .74 to .84. In cases where the two coders disagreed, coding results were based on the alternative incorporation of coder A's observation in the first disagreement and the incorporation of coder B's observation in the second disagreement, and so forth.

A total of 3,652 utterances were coded. Twenty-four percent of the utterances were coded as INCS integrative acts; 58 percent were coded as INCS descriptive acts; and 17 percent were classified as INCS disintegrative acts.

Data Analyses Procedures

A satisfaction index was computed for each couple by summing and averaging their scores on the Dyadic Anjustment Scale. The marital satisfaction indexes for the 34 couples ranged from 64 to 137. The mean of the sample was 114.03 (SD=13.88) which was very similar to that of married individuals ($\bar{x}$ = 115;SD=17.8) in Spanier's (1976) DAS validity study. The average satisfaction index for the high satisfaction group (top 10 satisfaction couples) was 127.6. The average satisfaction index for the low satisfaction index (lowest 10 satisfaction couples) was 98.6; while the mean satisfaction index for the moderate satisfaction group (middle 14 satisfaction couples)

was 115.4.

The interaction of the high satisfaction group consisted of 1,080 utterances; the low satisfaction group, 1,176 utterances; the moderate satisfaction group, 1,396 utterances. Comparatively, couples in the low satisfaction group talked more or held more rapid verbal exchanges than couples in the high satisfaction group.

Two statistical procedures were used to analyze the interaction data in this investigation. A series of Markov chain analysis was employed to determine whether the sequences of interaction within each marital satisfaction group were (a) stable across time, (b) contained nonrandom sequences, and (c) transitional probability matrices were homogeneous across couples. The Markov model was further used to determine whether the interaction processes within the high satisfaction group, moderate satisfaction group, and low satisfaction group were significantly different from each other. Lag sequential analysis was used to discover any significant sequential interaction patterns that might distinguish the three satisfaction groups from each other. The goal of a Lag sequential model is to identify nonrandom conditional probabilities among sequential dependencies of various behaviors. Significant sequential patterns of interaction are identified when the matching behaviors occur more than expected by chance.

The theoretical assumptions of the Markov model were explicated clearly in the studies by Ellis (1979), Gottman and Notarius (1978), Hawes and Foley (1976), Jaffe and Feldstein (1970), Rausch (1972). The conceptual assumptions behind the Lag sequential model were discussed in details by Bakeman (1977), Gottman (1979), Gottman and Bakeman (1978), Gottman and Notarius (1978), and Sackett (1978).

RESULTS

Markov Chain Analyses

Three procedures were used to answer the first research question. First, Markov tests for homogeneity were used to test for any topical effect (the DAS task versus the improvised task) within each couple's interaction. Second, Markov statistics were used to assess the three underlying assumptions about the interaction data: stationarity, order effects, and homogeneity. Third, Markov chain analyses were used to test for statistical differences between the three data sets: high satisfaction interaction, moderate satisfaction interaction, and low satisfaction interaction. The likelihood Ratio Values (LR) of Anderson-Goodman test (1957) were used to determine the statistical significance for all Markov chain analyses.

The results (see Table 2) of the homogeneity tests for topical effects in a randomly selected 10 percent of the 34 interactions supported the null hypothesis of the homgeneity assumption across the two topical discussions. The interaction on the DAS questionnaire task was similar to the interaction on the "improvised" conflict task. Thus, the two topical discussions could be analyzed together as one interaction unit.

Further analyses indicated that the data set within each satisfaction group was both stable and homogeneous. All stationarity analyses for the three groups were nonsignificant. Each marital group displayed consistent interaction movement through time and transition probabilities were not time dependent. The homogeneity assumption for each group was also satisfied. No single interaction within each satisfaction system was significantly different from the composite interaction. However, the significance of the tests for zero-order vs. first-order hypothesis clear-

Table 2

Likelihood Ratio Values for Homogeneity
Across Interaction Topics

Random 10% Interaction	LR	df	p*
1	82.05	210	n.s.
2	71.04	210	n.s.
3	139.19	210	n.s.
4	67.79	210	n.s.
5	112.32	210	n.s.
6	86.79	210	n.s.

*$p < 0.05$

ly indicated that the sequencing of verbal acts within each satisfaction group was not a random event -- thus, knowing a preceding verbal act increased the predictability of the following act. Table 3 presents the Likelihood Ratio values for order effects in the three satisfaction groups. The nonsignificant results for the first-order vs. second-order hypothesis indicated that the predictability of a given act does not necessarily increase with a knowledge of what occurs in the prior two acts.

The final step was to determine whether the interaction patterns within each satisfaction group differed from one another. The Anderson-Goodman test for homogeneity was used to compare the composite interaction matrices between high satisfaction and moderate satisfaction groups, between low satisfaction and moderate satisfaction groups, and between high satisfaction and low satisfaction groups. Results were reported in Table 4. The findings clearly indicated that the interaction patterns within each group were significantly different from another group. The three data sets were non-homogeneous. The interaction processes in high, moderate, and low satisfaction groups were significantly different from one another. The next question is: How are the interaction processes within each group different from one another?

Lag Sequential Analyses

Having determined that the interaction processes of high, moderate, and low satisfaction groups were not homogeneous, the model of Lag sequential analysis was used to identify any unique sequential patterns that characterize each marital satisfaction group. The null hypothesis for Lag analysis posits that there are no dependencies among the sequential events with respect to the criterion behavior. The alternative hypothesis is that the behaviors that follow the particular criterion behavior are sequentially dependent and are above random chance occurrence.

Table 3

Likelihood Ratio Values for Order Effects
within High, Moderate, and Low Satisfaction Groups

Order Effects	High LR	Moderate LR	Low LR	df	p
0-Order vs. 1st-Order	566.46	661.66	709.51	196	.01
1st-Order vs. 2nd-Order	931.5	1186.88	1598.06	2940	n.s.

Table 4

Likelihood Ratio Values for Homogeneity between High vs. Moderate, Low vs. Moderate, and High vs. Low Marital Satisfaction Groups

High vs. Moderate LR	Low vs. Moderate LR	High vs. Low LR
259.99*	378.71**	522.02**

*$p < .05$; df = 210

**$p < .01$; df = 210

Following the recommendations of both Gottman (1979) and Sackett (1978) on lag analysis, the following criteria were generated to determine the significant sequences of communicative behavior with respect to the criterion code: (1) the Z-score must exceed $\pm$ 1.96, and be significant at the .05 level; (2) the conditional probabilities (observed values) must be approximately twice as large as the unconditional probabilities (expected values by random chance); and (3) the observed frequency of the criterion behavior must compose at least 5 percent of the data set, and the sequential behavior with respect to the criterion must occur at least ten times or more at the specified lag distance.

The lag sequential analyses on the interaction of the high satisfaction marital group yielded the following results: (1) the pattern of Coaxing→ x → Coaxing→ x → Coaxing→ x → Coaxing→ Coaxing was found to be significant when coaxing was used as the criterion behavior (see Table 5); (2) Confirming → x → Confirming → x was found as a significant sequential pattern when confirm was used as the criterion code (see Table 6); (3) the sequential pattern of Socio-Emotional Description → Socio-Emotional Question → x → Socio-Emotional Question was identified when socio-emotional description was the criterion code (see Table 7); and (4) the pattern of Task Question → Task Description → Task Question → Task Description → Task Question → Task Description was observed when the criterion code was task-oriented question (see Table 8). Overall, the results indicated that the interaction of the high marital satisfaction group was represented by communication strings of coaxing, confirming and socio-emotional questioning in a unilateral direction, while acts of task-oriented question and description were reciprocal or bilateral. When one spouse starts to coax or confirm, that does not necessarily lead to reciprocal positive behavior. It is only with sustained coaxing across three lags that the other spouse

Table 5

Conditional Probabilities of Coaxing with Coaxing as the Criterion in High Satisfaction Interaction

Criterion: Coaxing[1]	Lags				
	1	2	3	4	5
Coaxing	0.16	0.31*	0.14	0.19*	0.20*
z-score	2.30	7.48	1.38	3.35	3.68

*Conditional probabilities which meet all three criteria, with $z > \pm 1.96$; $p < 0.05$.

[1]Sequential Pattern: Coaxing → x → Coaxing → x → Coaxing → Coaxing

Table 6

Conditional Probabilities of Confirm and Socio-Emotion Description with Confirm as the Criterion in High Satisfaction Interaction

Criterion: Confirm[1]	Lags				
	1	2	3	4	5
Confirm	0.14	0.19*	0.12	0.16	0.10
z-score	1.64	3.30	0.98	2.30	0.31
Socio-Emotion Description	0.35**	0.28	0.32**	0.21	0.28
z-score	2.92	1.10	2.01	-0.50	1.10

* Conditional probabilities which meet all three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

[1] Sequential Pattern: Confirm → x → Confirm

** Conditional probabilities which meet two out of three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

Table 7

Conditional Probabilities of Socio-Emotion Question with Socio-Emotion Description as the Criterion in High Satisfaction Interaction

Criterion: Socio-Emotion Description[1]	Lags				
	1	2	3	4	5
Socio-Emotion Question	0.08*	0.03	0.06*	0.03	0.03
z-score	4.38	-0.50	3.01	0.38	-0.49

*Conditional probabilities which meet all three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

[1]Sequential Pattern: Socio-Emotion Description → Socio-Emotion Question → x → Socio-Emotion Question

Table 8

Conditional Probabilities of Task-Oriented Question and Task-Oriented Description with Task-Oriented Question as the Criterion in High Satisfaction Interaction

Criterion: Task-Question[1]	Lags				
	1	2	3	4	5
Task-Oriented Question	0.02	0.33*	0.07	0.29*	0.12
z-score	-3.07	7.81	-1.35	6.38	0.40
Task-Oriented Description	0.56*	0.18	0.42*	0.18	0.42*
z-score	8.87	-1.16	5.24	-1.37	5.10

*Conditional probabilities which meet all three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

[1]Sequential Pattern: Task Question → Task Description → Task-Question → Task Description → Task Question → Task Description

might finally respond with coaxing behavior.

The lag analyses on the interaction of the low marital satisfaction group presented the following findings: (1) the pattern of Confront → Defend → Confront → Defend → Confront was identified with the sequential trend moving toward complain and defend when confront was the criterion behavior (see Table 9); (2) the unique pattern of Complain → Defend → Complain → Defend runs through lag 10 (10 events away from the criterion) when complain was used as the criterion behavior (see Table 10); and (3) consequently, when defend was used as the criterion code, the sequential loop of Defend → Complain → Defend → Complain also runs through the entire ten lags (see Table 11).

It seems that in low satisfaction interaction, when one spouse starts to verbally attack the other spouse directly (confront) or indirectly (complaint) the other most often responds with defensive behavior. Apparently once such negative interaction is started, it is sustained across many exchanges between the husband and wife. The bilateral interaction of confront → defend and complain → defend recycle into long strings of reciprocal negative utterances. Compared to the primarily unilateral interaction in high satisfaction couples, the interaction of the low satisfaction couples is characterized by mainly bilateral communication -- it apparently takes two spouses to engage in interaction patterns characteristic of low satisfied marriages.

As for the interaction between the spouses in the moderate satisfaction group, three significant sequential patterns were found: (1) Agree → x → Agree → Socio-Emotional Question → Agree → x → Agree with agree as the criterion code (see Table 12); (2) Confirm → Agree → Confirm → x → Confirm with confirm as the criterion behavior (see Table 13); and (3)

Table 9

Conditional Probabilities of Confront and Defend with Confront as the Criterion in Low Satisfaction Interaction

Criterion: Confront[1]	Lags				
	1	2	3	4	5
Confront	0.16*	0.27*	0.08	0.15*	0.05
z-score	3.46	7.50	0.76	3.00	0.59
Defend	0.33*	0.12	0.28*	0.15	0.17
z-score	6.13	0.22	4.74	0.92	1.61

*Conditional probabilities which meet all three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

[1] Sequential Pattern: Confront → Confront / Defend → Confront → Defend → Confront

Table 10

Conditional Probabilities of Complain and Defend with Complain as the Criterion in Low Satisfaction Interaction

		Lags									
Criterion:	Complain[1]	1	2	3	4	5	6	7	8	9	10
Complain		0.06	0.47	0.07	0.35*	0.08	0.33*	0.06	0.28*	0.10	0.23*
z-score		1.67	13.38	-1.38	9.12	-1.10	8.27	-1.67	6.28	-0.25	4.63
Defend		0.47*	0.10	0.33*	0.15	0.26*	0.33*	0.27*	0.10	0.25*	0.15
z-score		12.80	-0.59	7.61	1.33	5.15	8.27	5.43	-0.59	4.88	4.63

*Conditional probabilities which meet all three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

[1]Sequential Pattern: Complain → Defend → Complain → Defend → Complain → Defend → Complain / Defend → Defend → Complain → Defend → Complain

Table 11

Conditional Probabilities of Defend and Complain with Defend as the Criterion in Low Satisfaction Interaction

Criterion: Defend[1]	Lags									
	1	2	3	4	5	6	7	8	9	10
Defend	0.08	0.40*	0.13	0.27*	0.10	0.29*	0.11	0.27*	0.13	0.22*
z-score	-1.45	10.32	0.38	5.88	-0.66	6.66	-0.14	5.88	0.65	3.78
Complain	0.36*	0.06	0.30*	0.67	0.28*	0.02	0.24*	0.13	0.24*	0.13
z-score	10.02	- 1.67	7.57	-1.40	6.76	-1.40	5.40	1.05	5.12	1.05

*Conditional probabilities which meet all three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

[1]Sequential Pattern: Defend → Complain → Defend → Complain → Defend → Complain → Defend → Complain → Defend → Complain → Defend

Table 12

Conditional Probabilities of Agree and Socio-Emotion Question with Agree as the Criterion in Moderate Satisfaction Interaction

Criterion: Agree[1]	Lags					
	1	2	3	4	5	6
Agree	0.03	0.13*	0.06	0.16*	0.04	0.12
z-score	1.08	2.90	-0.20	3.78	-0.64	2.45
Socio-Emotion Question	0.08	0.04	0.12*	0.04	0.10	0.10
z-score	0.60	-0.71	2.34	-0.71	1.47	1.47

*Conditional probabilities which meet all three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

[1]Sequential Pattern: Agree → x → Agree → Socio-Emotion Question → Agree → x → Agree

Table 13

Conditional Probabilities of Confirm and Agree with Confirm as the Criterion in Moderate Satisfaction Interaction

Criterion: Confirm[1]	Lags 1	2	3	4	5
Confirm	0.11	0.20*	0.12	0.16*	0.08
z-score	1.20	4.45	0.52	3.15	0.10
Agree	0.12*	0.03	0.07	0.04	0.06
z-score	2.85	-1.31	0.58	-0.93	-0.18

*Conditional probabilities which meet all three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

[1]Sequential Pattern: Confirm → Agree → Confirm → x → Confirm

(3) Coaxing→ Coaxing→ Coaxing→ x →Coaxing pattern with coaxing as the criterion code (see Table 14).

Overall, the interaction of moderate satisfied couples seems to be characterized by sequential strings of agreeing, confirming, and coaxing ("sweet talking") behavior. One spouse typically goes along with what the other spouse is saying and they also acknowledge each other with confirming and coaxing utterances. In contrast with the interaction in the high satisfaction group, the confirming behavior by one spouse in the moderate satisfaction group is greeted by agreement immediately following the confirming act; coaxing behavior is also reciprocated by more coaxing in earlier lags.

To summarize, the results of both Markov chain analysis and Lag sequential analysis indicated that: (1) the interaction processes of the three marital satisfaction groups were significantly different from one another; and (2) high satisfaction interaction was characterized by the sequential patterns of coaxing, confirming, socio-emotional questions and task-oriented acts; low satisfaction interaction was characterized by bilateral patterns of confronting, defending, and complaining acts; and moderate satisfaction interaction was characterized by agreeing, confirming, and coaxing sequential patterns.

DISCUSSION

The findings of the study suggest that unique communication patterns do characterize the interaction processes of differentially satisfied couples. It seems that highly-satisfied couples tend to use the INCS verbal sequential acts of coaxing, confirming, socio-emotional questions and task-oriented statements to acknowledge the ideas and feelings of their spouses (confirm); to facilitate new information exchanges (socio-

Table 14

Conditional Probabilities of Coaxing with Coaxing as Criterion in Moderate Satisfaction Interaction

Criterion: Coaxing[1]	Lags				
	1	2	3	4	5
Coaxing	0.17*	0.22*	0.10	0.22*	0.15
z-score	3.51	5.54	0.82	5.54	2.84

*Conditional probabilities which meet all three criteria, with z score > $\pm$ 1.96; $p < 0.05$.

[1]Sequential Pattern: Coaxing → Coaxing → Coaxing → x → Coaxing

emotion and task-oriented questions); and to inject a sense of humor into their interaction with "teasing" and "sweet talking" behavior (coaxing). They appear to be intent on making their marital conversation as open, as free-flowing and as enjoyable as possible.

However, the low-satisfied married couples may be defined as having a closed system of communication. These couples fail to recognize alternative verbal moves to interact with their spouses, and have restricted themselves to the rigid use of confronting and complaining acts to attack their spouses, and the use of justificatory statements to defend themselves. These disintegrative interaction patterns closely correspond to what Wilmot (1975) termed "regressive spirals." Wilmot comments:

> Regressive cycles are readily apparent when a relationship begins disintegrating. When distrust feeds distrust, defensiveness soars and the relationship worsens, and such "runaway relationships" become destructive for all concerned (p. 126).

The mutual reinforcement of verbal complaint/confront and defend acts in the interaction process of low-satisfied couples can only stifle the relationships of these couples. However, while some evidence is found to support the concept of "regressive spiral," or negative reciprocity norm, not enough evidence of mutual positive reinforcement is found to support what Wilmot termed "progressive spiral," or positive reciprocity norm.

Extending the results of this study, three additional observations can be made concerning the sequential dependences of verbal exchanges within the different marital interaction systems. First, the <u>interactional style</u> of married couples in each satisfaction group varied from

one group to another. In the high-satisfaction group, married couples typically engaged in a unilateral style of marital interaction. One spouse's coaxing or confirming act does not necessarily lead to the immediate reciprocation of coaxing, confirming, or other integrative behavior. Rather, in the case of coaxing behavior, only persistent (up to lag five) "sweet talk" (coaxing) from one spouse finally leads to a reciprocation of "sweet talk" from the other spouse. In addition, the sequential pattern of socio-emotional description is followed by the unilateral direction of socio-emotional question in lag one and lag three. Except for the reciprocal sequence of task-oriented question and description, the high-satisfied couples primarily engage in a unilateral style of marital interaction.

In contrast, low-satisfied couples are characterized by a bilateral style of marital interaction. Both the confront and complain verbal acts by one spouse are immediately reciprocated by a defend verbal act by the other spouse. In one case, the confront verbal act also triggers the equally likely reciprocation of the confront act from the other spouse in lag one. In another case, the complain act also provokes a further complain act in lag six. It seems that for unhappily married couples, the persistent mutual reciprocation of rejective verbal acts leads to a disintegrative interaction system.

A careful examination of the sequential patterns in moderately-satisfied couples' interaction shows that these couples typically engage in a mixed style of marital interaction. The mixed style is a combination of both unilateral and bilateral styles. While some verbal acts in the sequential strings are reciprocated, others are not. The agree verbal acts in the moderate-satisfaction interaction is not reciprocated until

lag three with a socio-emotional question followed by another agree verbal act. The confirm act is reinforced with an agree verbal response and then the confirm act moves on unilaterally. Coaxing behavior in the moderately-satisfaction interaction is immediately reciprocated by a coaxing verbal act from the other spouse. However, coaxing behavior in the high-satisfaction interaction is not reciprocated until a later lag. Thus, moderate-satisfaction interaction is characterized by a mixed style of marital communication, with some sequential verbal acts being immediately reciprocated while others move forward unilaterally.

A second observation of lag sequential events of the three marital groups is concerned with the interactional structure of these three systems. The longest significant sequential events are up to lag five in high-satisfaction interaction; while the longest sequential patterns that characterize low-satisfaction interaction are patterned to lag ten. These results indicate that the interaction process of low-satisfied couples is highly structured or more sustained than the interaction of high-satisfied couples. These findings also confirm part of Gottman's (1979) marital interaction model in which he proposed that there is more structure in the interaction of distressed couples than in the interaction of nondistressed couples. Comparing the interaction of the moderate-satisfaction group with the high-satisfaction group, the interactional structure of the moderately satisfied couples is just slightly more patterned (up to lag six as compared to lag five) than the interaction of the high-satisfied couples.

A third noteworthy observation is related to the interactional repertoire of the marital couples in the three marital satisfaction groups. It seems that partners in high-satisfied group are able to use a diverse repertoire such as coaxing, confirming, socio-emotional question, and task-

oriented question, and task-oriented description to communicate with their spouses. Whereas in the low-satisfaction interaction, the couples are limited to a more restrictive repertoire of confront, complain, and defend sequential verbal acts. The high-satisfied couples are able to draw upon both the INCS integrative and descriptive categories to communicate with their spouses. However, the low-satisfied couples' verbal repertoire is entirely restricted to the INCS disintegrative categories. In comparison, the interaction of moderately-satisfied couples is also reflective of a flexible, diverse repertoire of verbal sequential acts of agreement, socio-emotional question, confirming, and coaxing, again from both the INCS descriptive coding categories and the INCS integrative coding categories.

An outline presenting the conceptual summary of the descriptive data based on lag sequential analyses is presented (see Table 15).

In conclusion, this study has adequately addressed the two research questions proposed earlier in this investigation. In response to the first question, the fact that statistically significant differences were found in the Markov homogeneity tests between these three groups indicate that the interaction processes of differentially satisfied married couples were dissimilar from one another. Further, analyses by Lag sequential model suggests how each marital group differs in the specific sequencing of verbal patterns over time.

Perhaps the most theoretically meaningful finding in this investigation is the discovery of the use of unilateral style of interaction in high satisfied married couples versus the use of bilateral style of interaction in low satisfied married couples. It seems that positive sentiments do not have to be immediately reciprocated or reinforced in the hap-

Table 15

A Conceptual Summary of the Relationships Between INCS Interaction Patterns with Three Levels of Marital Satisfaction

Interaction	Satisfaction		
	High	Moderate	Low
Sequential Verbal Acts	Integrative and Descriptive	Integrative and Descriptive	Disintegrative
Style	Unilateral	Mixed	Bilateral
Structure	Low	Medium	High
Repertoire	Diverse	Diverse	Restrictive

pily-adjusted marital couples; whereas negative norms of reciprocity are actively practiced by the unhappily-adjusted married couples. Once these unhappy couples engage in these rejective verbal loops of hurting and defensive acts, they seem to lack the ability to retrieve themselves from the impasse. The theory of communication competence can be used to account for the differential behaviors of interactions among high satisfied couples and low satisfied couples. The concept of reciprocity norm can be employed in the future to explain and predict the sequential interaction progress of differentially satisfied couples across time. The primary objective of this investigation is one of description. Hopefully by systematically accumulating a body of good descriptive data, specific hypotheses concerning the interaction processes of intimate conversation can be developed, and theory-building can be enriched through interrelating other relational-related variables such as decision-making roles, dyadic commitment, rhetorical sensitivity, and nonverbal negotiation moves with the verbal interaction process.

NOTES

1. A program designed by Robert B. Arundale was employed to conduct all Markov statistical analyses. The tests are taken from an article by: T. Anderson and L. Goodman, "Statistical Inferences About Markov Chains," Annals of Mathematical Statistics, 28 (1957), 89-110.

2. A program developed by Gene P. Sackett was used to conduct all lag sequential tests. The method is discussed in detail in his article: "A Nonparametric Lag Sequential Analysis for Studying Dependencies Among Responses in Observational Scoring System," an unpublished manuscript presented to the Western Psychological Association, 1974.

REFERENCES

Anderson, T., & Goodman, L. Statistical inferences about Markov chains. Annals of Mathematical Statistics, 28 (1957), 89-110.

Bakeman, R. Untangling streams of behavior. In G.P. Sackett (Ed.), Observing Behavior: Data Collection and Analysis Methods, Vol. 2. Baltimore: University Park Press, 1977.

Birchler, G.R., Weiss, R.L., & Vincent, J.P. A multi-method analysis of social reinforcement exchange between maritally distressed and non-distressed spouse and stranger dyads. Journal of Personality and Social Psychology, 1975, 31, 349-360.

Clark, R.S. The impact of selection of persuasive strategies on self-interest and desired liking. Communication Monographs, 1979, 46, 257-273.

Cohen, J. Weighted Kappa: Nominal scale agreement with provision for scaled disagreement or partial credit. Psychological Bulletin, 1968, 70, 213-220.

Cupach, W.R. Interpersonal Conflict: Relational Strategies and Intimacy. Paper presented at the annual convention of the Speech Communication Association, New York, September 1980.

Ellis, D.G. Relational Control in two group systems. Communication Monographs, 1979, 46, 153-166.

Falbo, T., & Peplau, L.A. Power strategies in intimate relationships. Journal of Personality and Social Psychology, 1980, 38, 618-628.

Fitzpatrick, M.A., & Best, P. Dyadic adjustment in relational types: Consensus, cohesion, affectional expression and satisfaction in enduring relationship. Communication Monographs, 1979, 46, 167-178.

Fitzpatrick, M.A., & Winke, J. You always hurt the one you love: Strategies and tactics in interpersonal conflict. Communication Quarterly, 1979, 27, 3-11.

Gottman, J.M. Marital Interaction: Experimental Investigation. New York: Academic Press, 1979.

Gottman, J.M., & Bakeman, R. The Sequential analysis of observational data. In M. Lamb, S. Suomi, & G. Stephenson (Eds.), Methodological Problem in the Study of Social Interaction. Madison: University of Wisconsin Press, 1978.

Gottman, J.M., Markman, H., & Notarius, C. Couples Interaction Scoring System. Champagne, Ill.: University of Illinois, 1977.

Gottman, J.M., & Notarius, C. Sequential analysis of observational

data using Markov chains. In T.R. Kratochwill (Ed.), Single Subject Research: Strategies for Evaluating Changes. New York: Academic Press, 1978.

Gottman, J.M., Notarius, C., Markman, H., Bank, S., Yoppi, B., & Rubin, M. Behavior exchange theory and marital decision making. Journal of Personality and Social Psychology, 1976, 34, 14-23.

Haley, J. Problem-Solving Therapy. New York: Harper, 1978.

Hawes, L.C., & Foley, J.M. Group decisioning and testing a finite stochastic model. In G.R. Miller (Ed), Explorations in Interpersonal Communication. Beverly Hills: Sage Publications, 1976.

Hawkins, J.L., Weisberg, C., & Ray, R.E. Spouse differences in communication style: Preference, perception, and behavior. Journal of Marriage and the Family, 1980, 42, 585-593.

Haynes, S.N., Follingstad, D.R., & Sullivan, J.C. Assessment of marital satisfaction and interactions. Journal of Consulting and Clinical Psychology, 1979, 47, 689-791.

Hops, H., Wills, T.A., Patterson, G.R., & Weiss, R.I. Marital Interaction Coding System. Unpublished manuscript, University of Oregon and Oregon Research Institute, 1972.

Jacobson, N.S. Problem-solving and contingency contracting in the treatment of marital discord. Journal of Consulting and Clinical Psychology, 1977, 45, 92-100.

Jacobson, N.S., & Martin, B. Behavioral marriage therapy: Current status. Psychological Bulletin, 1976, 83, 540-556.

Jaffe, J., & Feldstein, S. Rhythms of Dialogue. New York: Academic Press, 1970.

Jorgensen, S.R., & Gaudy, J.C. Self-disclosure and satisfaction in marriages: The relation examined. Family Relations, 1980, 29, 281-287.

Markman, H.J. Application of a behavioral model of marriage in predicting relationship satisfaction in couples in planning marriage. Consulting and Clinical Psychology, 1979, 47, 743-749.

McLaughlin, M.L., Cody, M.J., & Robey, C.S. Situational influences on the selection of strategies to resist compliance-gaining attempts. Human Communication Research, 1980, 7, 14-36.

Miller, B.S. A multivariate development of model of marital satisfaction. Journal of Marriage and the Family, 1976, 38, 643-657.

Miller, G., Boster, F., Roloff, M., & Seibold, D. Compliance-gaining message strategies: A typology and some findings concerning effects of situational differences. Communication Monographs, 1977, 44, 35-51.

Miller, S., Nunnally, E., & Wackman, D. Alive and Aware: Improving Communication in Relationships. Minneapolis, Wisconsin: Interpersonal Communication Program, 1975.

Montgomery, B.M. The form and function of quality communication in marriage. Family Relations, 1981, 30, 21-30.

Rausch, H.L. Process and change--a Markov model for interaction. Family Process, 1972, 11, 275-298.

Rausch, H., Barry, W., Hertel, R., & Swain, M. Communication, Conflict, and Marriages. San Francisco: Josse-Bass, 1974.

Rogers, L.E., & Farace, R.V. Analysis of relational communication in dyads: New measurement procedures. Human Communication Research, 1975, 1, 222-239.

Roloff, M.E. Communication strategies, relationships and relational change. In G.R. Miller, (Ed.), Explorations in Interpersonal Communication. Beverly Hills, Cal.: Sage Publications, 1976.

Royce, W.S., & Weiss, R.L. Behavioral cues in the judgment of marital satisfaction: A linear regression analysis. Journal of Consulting and Clinical Psychology, 1975, 43, 816-824.

Rubin, M.E. Differences between distressed and nondistressed couples in verbal and nonverbal communication codes. Unpublished Ph.D. Dissertation, Indiana University at Bloomington, 1977.

Sackett, G.P. The lag sequential analysis of contingency and cyclicity in behavioral interaction research. In J.D. Osofsky (Ed.), Handbook of Infant Development. New York: Wiley, 1978.

Satir, V. Conjoint Family Therapy. Palo Alto: Science and Behavior Books, 1964.

Sillars, A.L. The Stranger and the spouse as target persons for compliance-gaining strategies: A subjective expected utility model. Human Communication Research, 1980, 6, 265-279.

Snyder, D.K. Multi-dimensional assessment of marital satisfaction. Journal of Marriage and the Family, 1979, 41, 813-823.

Spanier, G.B. The measurement of marital quality. Journal of Sex and Marital Therapy, 1974, 5, 288-300.

Spanier, G.B. Measuring dyadic adjustment: New scales for assessing the quality of marriage and similar dyads. Journal of Marriage and the Family, 1976, 38, 15-28.

Spanier, G.B., & Cole, C.L. Toward clarification and investigation of marital adjustment. International Journal of the Sociology of the Family. 1976, 6, 121-146.

Ting-Toomey, S. An Analysis of Marital Communication Behaviors and Perceptions of Marital Satisfaction: A Validation Study of the Intimate Negotiation Coding System. Unpublished Ph.D. dissertation. University of Washington, 1981.

Ting-Toomey, S. Coding Conversation Between Intimates: A Validation Study of the Intimate Negotiation Coding System (INCS). Paper presented at the annual convention of the Eastern Communication Association, Hartford, Connecticut, May, 1982.

Weiss, R.S.. Marital Separation. New York: Basic Books, Inc., 1975.

Weiss, R.S., Hops, H., & Patterson, G.R. A framework for conceptualizing marital conflict: A technique for altering it, some data for evaluating it. In L.A. Hamerlynch, L.C. Handy, and E.J. Mash (Eds.), Behavior Change: The Fourth Banff Conference on Behavior Modification. Champaign, Ill.: Research Press, 1973.

Wilmot, W.W. Dyadic Communication: A Transactional Perspective. Reading, Mass.: Addison-Wesley Publishing Company, 1975.